

uvex

PROTECTING PEOPLE

Prescription Safety Spectacles

Prescription Safety Spectacles?

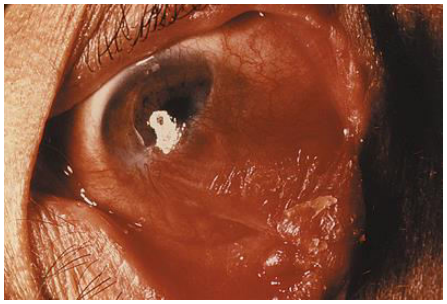
I wonder why…..



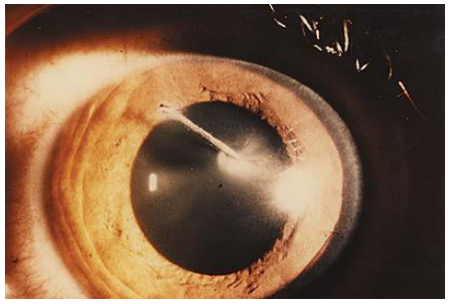
Kinds of hazards



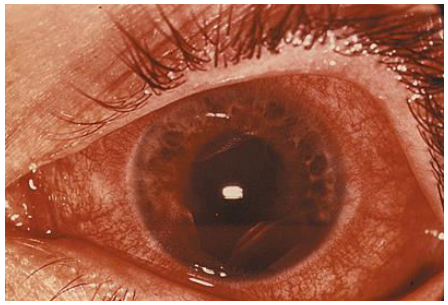
chemical burn
by lime



burn by
molten aluminium



splinter in
the eye



serious
ophtalmitis

- chemical (acids, bases, gases, vapours, mists/hazes, fumes)
- mechanical (foreign bodies e.g. dust, splinters)
- optical (UV- / IR-radiation, glare)

Prescription Safety Spectacles

reasoning

- Perfect solution for wearer of glasses working on places with risk of eye injuries
- Refractive power adapted to individual working distance
- No impairments and disturbing reflections (compared to wearing OTG-spectacles)
- High acceptance due to maximum wearing comfort and perfect vision
- esteem for individual safety product leads to willingness of constant use, prime cost will be amortized shortly
- Consumer spectacles do not offer enough protection due to less coverage and low mechanical impact resistance

What is the difference between

Prescription Safety Spectacles

and private glasses?



Prescription Safety Spectacles

EN-Standard approval

uvex Prescription safety spectacles fullfil requirements of

EN 166 – Personal Protective Eyewear, general requirements

frame and lenses are

tested, certified and marked accordingly

uvex products are in accordance with

EG Guidance 89/686/EWG

! Prescription as well as focustype could be identical with lenses worn in private glasses

However, lens materials are modified to guarantee mechanical impact resistance!

Prescription Safety Spectacles

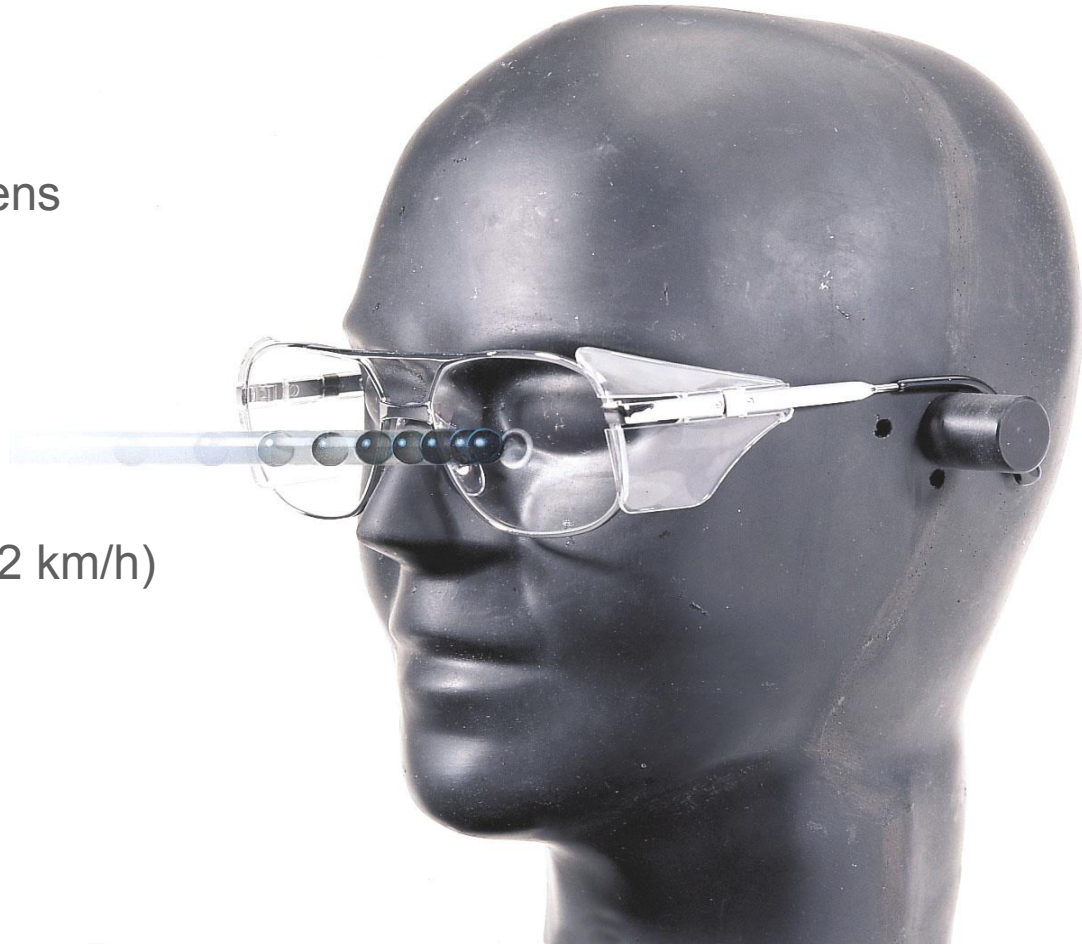
Mechanical impact resistance, test methods

- Increased robustness

→ Steel ball (44 g) falls on the surface of the lens
Height: 1.3 m
Marking: „S“

- Impact, low energy

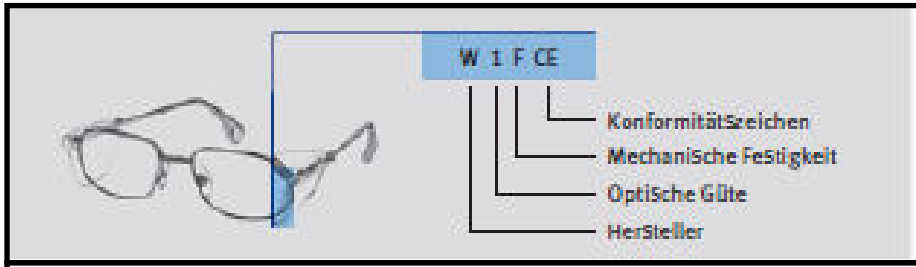
→ Shooting method
Steel ball (0,88 g), velocity: 45 m/sec. (= 162 km/h)
Marking: „F“



Prescription Safety Spectacles

Prescription Safety Spectacles are tested and marked according EN 166

Marking must be on frame **and** lenses

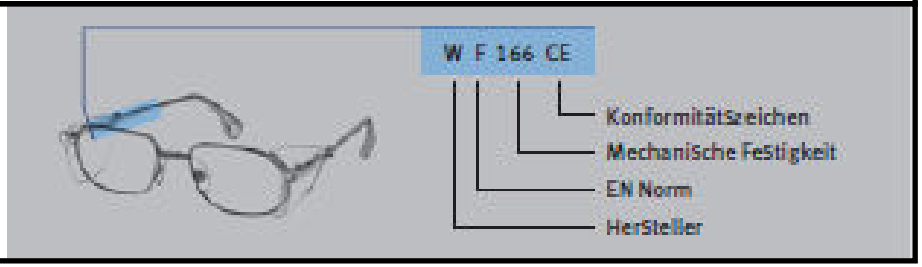


Marking of lenses

manufacturer´s identification	**W** (= uvex)
optical class	**1** (= highest quality)
mech. impact resistance	**F** (= 45m/sec)
EN conformity	**CE**

Marking of frame

manufacturer´s identification	**W** (= uvex)
mech. impact resistance	**F** (= 45m/sec)
EN-Standard	**166**
EN conformity	**CE**



The manufacturer needs to supply declaration of conformity and EN-certificates on request

! Are different markings regarding mechanical impact resistance on frame and lens then the lower mechanical impact resistance is valid for the whole product!



What lens materials
are available?

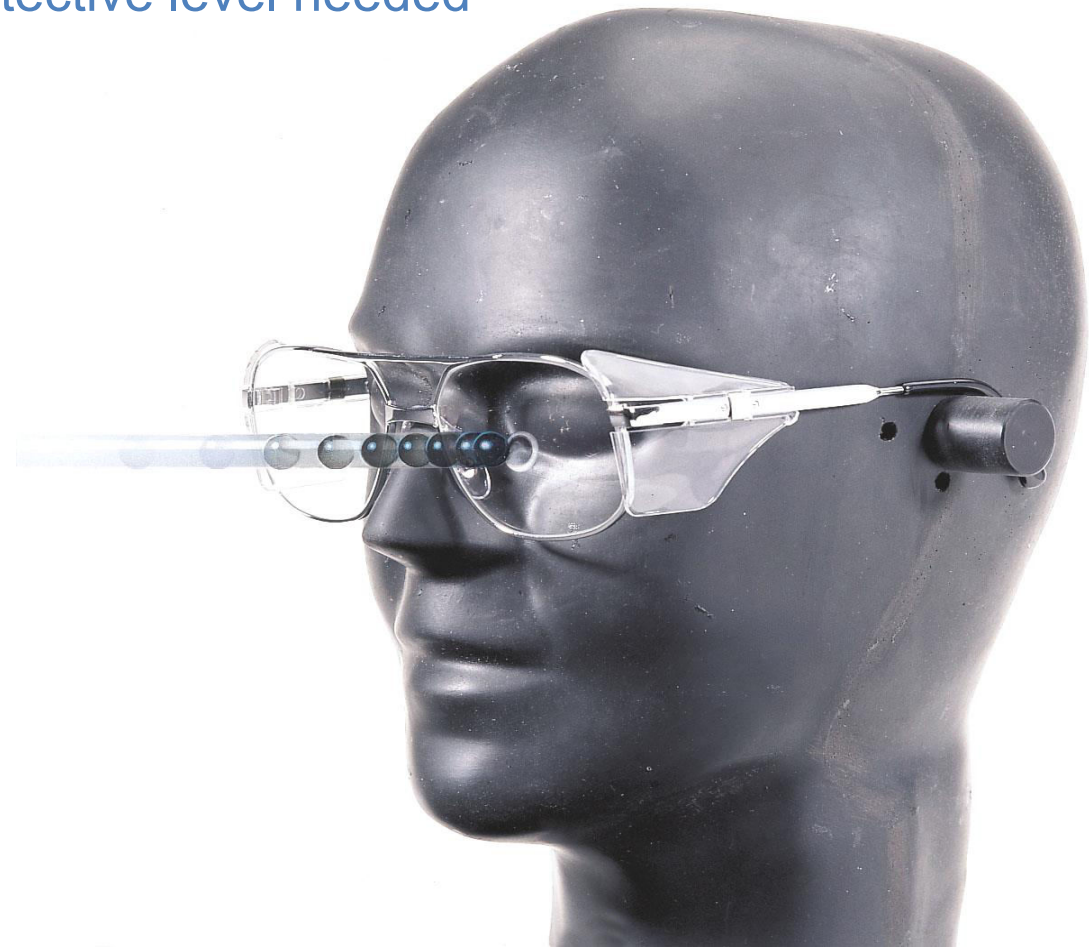
What lens material
should be recommended?

Prescription Safety Spectacles

Lens materials

Depending on working conditions and protective level needed following lens materials could be used:

- Hardened glass
- CR 39™, „plastic“
- High index plastic lenses
- Polycarbonate, PC
- Trivex™



Prescription Safety Spectacles

Comparison of lens materials

Material	Hard glass	CR39™ (modified)	Polycarbonate	Trivex™
Weight	very heavy	lightweight	comfortable	extremely lightweight
Specific index	1,52	1,5 optional HI 1,6 / HI 1,67	1,59	1,53
Marking according to EN 166	W1SDIN Increased robustness	W1SDIN Increased robustness	W1FDIN Impact low-energy	W1FDIN Impact low-energy
Scratch-resistance	extremely high	good (hard-coating optionally)	very good (hard-coating included)	very good (hard-coating included)
Chemical resistance	+ + +	+ +	+	+ + +
Resistance against sparks	+	+ +	+ +	+ +
Mechanical impact resistance	+	+	+ + +	+ + +

Prescription Safety Spectacles

Lens materials

Hardened glass (further expressions: silicate, mineral glass, „glass“)

!! due to less mechanical impact resistance only suitable for safety spectacles when modified and hardened!!

→ **Increased robustness due to enhanced thickness and hardening (thermically or chemically)**

Benefits:

- surface extremely scratch resistant
- suitable for working with chemicals
- suitable for very dusty areas, if high mechanical impact resistance is not necessary

Disadvantages:

- high weight, not recommended for prescription > +/- 4,0 dpt.
- sparks burn surface easily, „black dots“ appear
- risk of implosion when contact with molden metall

Prescription Safety Spectacles

Lens materials

CR 39 (usual expression: „plastic“)

!! due less mechanical impact resistance only suitable for safety spectacles when modified!!

→ Increased robustness due to enhanced thickness (Minimum Thickness 3 mm)

Benefits:

- low weight
- suitable for working with chemicals
- less damage of surface when contact with sparks
- good scratch resistance when hard coating applied (optionally)

- high index plastic materials available
  → recommendation when prescription > +/- 4,0 dpt.: HI 1,6
  → recommendation when prescription > +/- 6,0 dpt.: HI 1,67

Prescription Safety Spectacles

Lens materials

Polycarbonate (PC)

- very high mechanical impact resistance
- low weight
- good scratch resistance (hard coating included)
- less chemical resistance

Trivex™

- highest mechanical impact resistance
- low weight
- excellent optical quality – also for high refractive power
- extremely resistant against chemicals, cleaning solvents, oil, cosmetics
- good scratch resistance (hard coating included)

Prescription Safety Spectacles

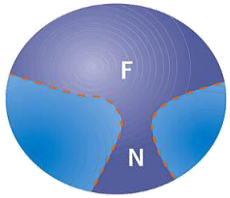
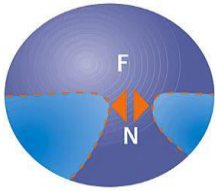
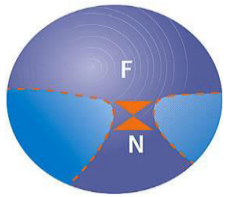
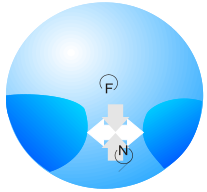
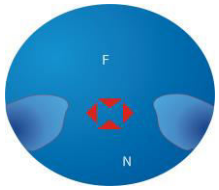
Focus types



- Single vision
- Bifocals
- Varifocals
- Office Reading Lenses

Prescription Safety Spectacles

Varifocals

version	Standard	Pro Work	Piccolo	Top One	Optima
Far distance area	standard	large	large	very confortable	individual
Progression Canal	long, narrow	wide canal	shortened canal	wide canal	almost no distorsions
Near distance area	standard	comfortable	comfortable	very comfortable	optimized
Graphing					
minimum specific height	21 mm	19 mm	16 mm	18 mm	16 mm
availability					
Hard glass	x	x	x	- - -	- - -
CR39®	x	x	x	x	x
HI 1,6	- - -	x	- - -	x	x
HI 1,67	- - -	- - -	- - -	x	x
Polycarbonate	x	- - -	x	x	x
Trivex	- - -	- - -	- - -	x	- - -

Prescription Safety Spectacles

uvex anatomic sports glazing for uvex RX sp frames

uvex RX sp frames combine high protective function and sporty design.

For these frames it is compulsory to use uvex anatomic sports lenses which are with special curved geometry!

Prescription is limited to +/- 5,0 dpt. max. value, cyl. 2,0 dpt.!
Bifocals and lenses from hardened glass are not available!





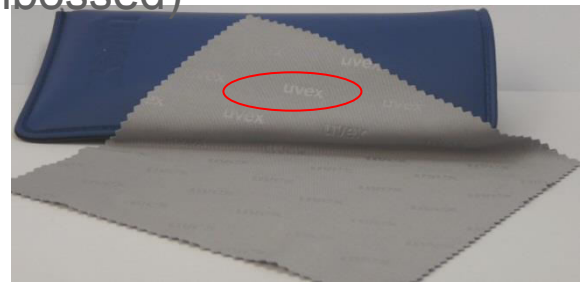



packaging

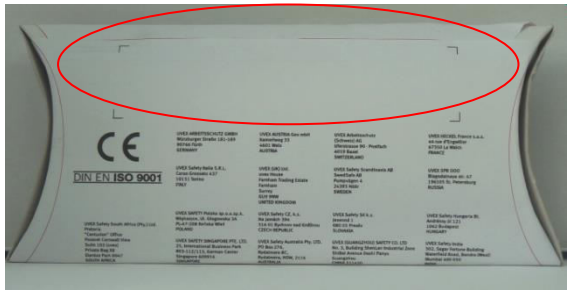
packaging:
- slip in case
- micro fibre cloth enclosed
- user information enclosed
- completed with pillow-pack
- Label on reverse side of pillowpack



slip in case, blue,
microfibre cleaning cloth,
grey, with uvex logo
(embossed)



Space for barcode-label



! Spectacles, not suitable for standard packaging (e.g. astro RX) will be delivered with case 9954.500 as standard. (no additional cost!)



9954.500